



# REDUCING 9-1-1 CALL TRANSFERS: A GAME-CHANGER

## How Location-Based Routing Reduced Call Transfers For The State Of Utah By Over 50%

When it comes to saving lives, seconds matter. However, 12% of the 192 million 9-1-1 calls made annually in the U.S. are not initially routed to the correct jurisdictional PSAP<sup>1</sup>, adding an average of 40 seconds to the emergency response, on a per call basis. The additional transfer not only increases the time to dispatch, but causes additional stress for the 9-1-1 caller and telecommunicator as they are both tasked with relaying information they have already shared multiple times.

Tina Mathieu, Deputy Director at the Utah Communications Authority, is excited about the steps Utah has taken to eliminate the issue of call transfers using Motorola Solutions' NG9-1-1 location-based routing service. Tina has been a part of the 9-1-1 industry for 30 years, from PSAP dispatcher, supervisor and manager to her current position at Utah Communications Authority. Utah Communications Authority is an independent state agency that is responsible for the statewide public radio system and phone system and working with the PSAPs to establish statewide 9-1-1 standards.

Call transfers were a problem in Utah, like they are for so many agencies. Utah state legislators believed the best way to improve service to citizens and ensure the call is routed to the correct PSAP was to leverage technology. As a result, the legislature put a rule in place that requires all PSAPs to meet a call transfer rate of under 2%. Before the state implemented Motorola Solutions' NG9-1-1 Call Routing, only one-third of the PSAPs met the requirement.





# INCENTIVE FOR CHANGE

The state of Utah's mission, regarding emergency communications, is to "provide the highest quality and most cost-effective emergency 9-1-1 call delivery and dispatch systems to the citizens of Utah, its emergency responders, and visitors to the State." Utah Communications Authority works closely with state legislators to support PSAPs statewide.

Tina recounts the pivotal moment when Utah officials recognized the shortcomings of the state's 9-1-1 system and took the first steps that led to the adoption of the new, statewide NG9-1-1 system in place today.

"I remember sitting in a legislative hearing listening to a legislator speak about being transferred after he had to call 9-1-1. That story lit the fire under the legislature to take notice of the call transfer rate."

This is when the Utah Communications Authority stepped in. "We began to educate the legislators about next-generation 9-1-1 and what it would bring to the table for PSAPs and how technology could improve some of the shortcomings they were coming to realize were occurring in our system."

The legislators recognized the critical need for improvement and developed new statutes, defining the acceptable call transfer rate of no more than 2% of 9-1-1 calls per PSAP. Additional funding incentives were set for PSAPs who met the new standard by whatever means possible — by relaying call data to the appropriate PSAP, using a CAD-to-CAD or consolidating to one or less PSAP per county to avoid transfer delays or potential failures.

"Historically, about one-third of our PSAPs have qualified for the additional funding based on the fact that they've met that acceptable transfer rate that's articulated in the statute. However," says Tina, "we believe that with Motorola Solutions' location-based routing, all of our PSAPs will be able to meet this element of the requirement."

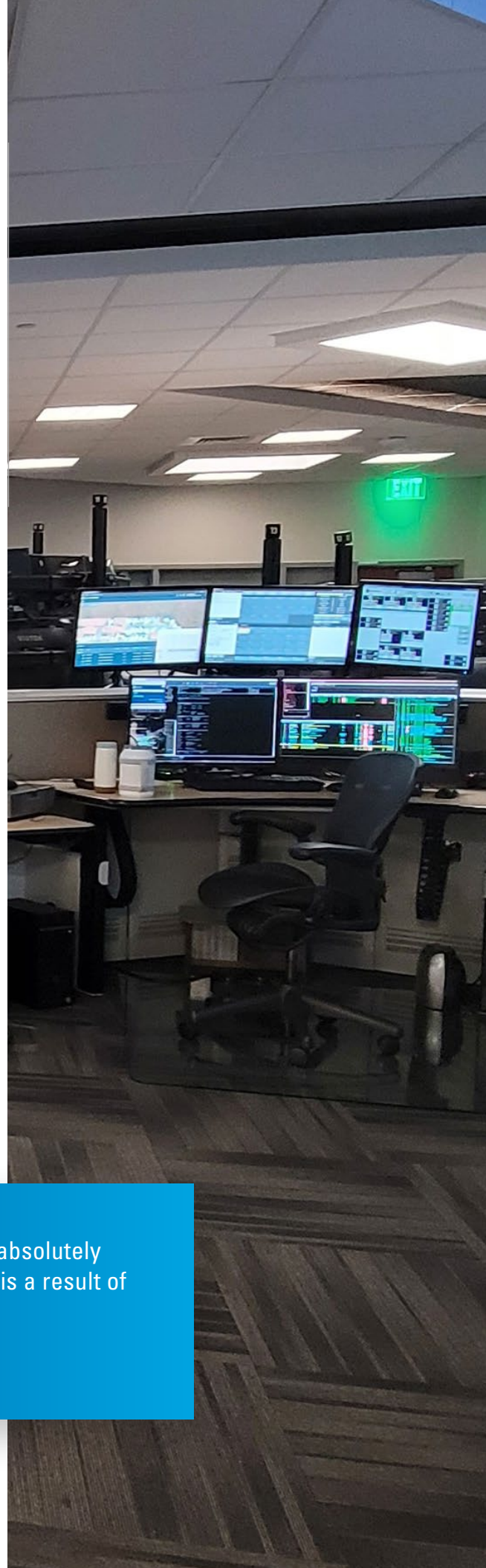
## State of Utah Emergency 9-1-1 Call Delivery

- State Population: 3.38 million
- 29 PSAPs + 6 Dispatch Centers
- Average monthly call volume: 86,450 calls
- 1.1 million 9-1-1 calls annually
- Motorola Solutions provides call routing, call handling and mapping, as a service.



What is really exciting about this is the fact that there is absolutely no work required on the part of the PSAPs. The outcome is a result of what's being done through technology.

– Tina Mathieu, Deputy Director, Utah Communications Authority



# DELIVERING ON THE PROMISE WITH LOCATION-BASED ROUTING

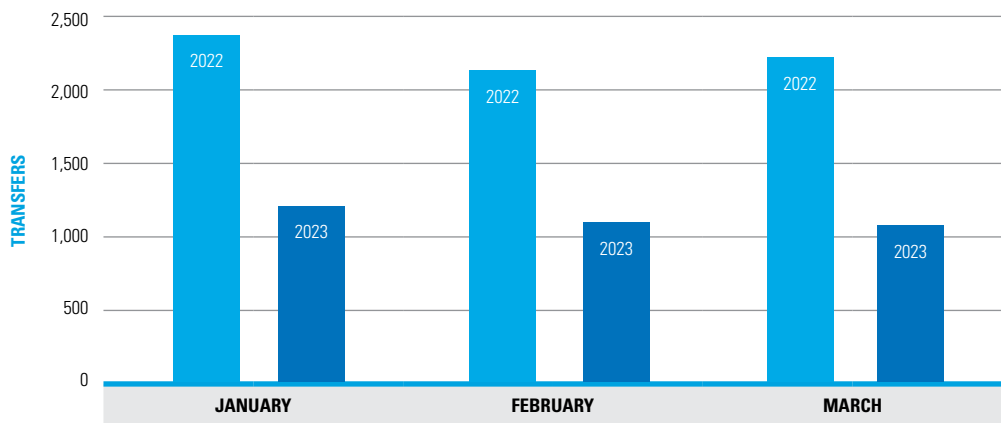
When comparing call transfer statistics for the State of Utah from Q1 of 2022, before Motorola Solutions had deployed its call routing service, to that of Q1 2023, the difference in call transfers proved significant. From January through March of 2023 when calls were routed to PSAPs based on location, the number of call transfers decreased by nearly 50%, a reduction of at least 1,000 call transfers per month, even with a higher call volume than that of the previous year. Plus, by eliminating the 40 seconds of average additional transfer time by calls being correctly routed in the first place, PSAPs throughout the state of Utah saved an average of at least 11 hours per month in their response times.



Motorola has made it possible to route calls based on location. It feels good to be able to deliver a promise that we made not only to the legislators that trusted us and provided the funding but for the citizens who have collectively received better service because of this location-based routing.

– **Tina Mathieu,**  
**Deputy**  
**Director, Utah**  
**Communications**  
**Authority**

## CALL TRANSFER STATISTICS



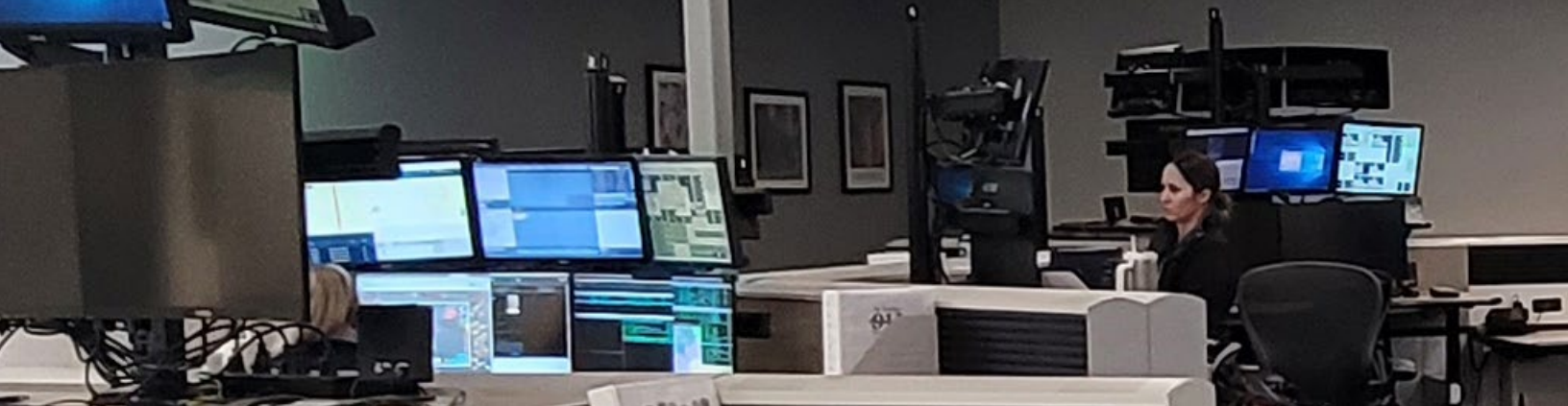
## Achieving a 50% Reduction in Call Transfers

When asked how the improvements in call routing were achieved, Sam Bard, Motorola Solutions NGCS Product Director, explains, “We are applying the NENA i3 architecture to how we route calls. As each call enters the system, the location of the 9-1-1 caller is actually being used to route the call.”

It may sound simple but this approach is a significant shift in the way 9-1-1 calls have been routed for over five decades. Instead of using the phone number or other value and matching it in a table format to a predefined and assumed PSAP destination, Motorola Solutions is obtaining the location of the call from the Originating Service Provider (OSP) and using that to decide which jurisdictional PSAP the call should be routed to.

Sam points out that, “Across the US today, the majority of calls are still being routed by most call routing providers using legacy methods which include the use of Selective Router Databases (SRDB). We are not using legacy routing technologies as part of our NENA i3 service.”





Saint George Consolidated Communications Center, Utah

## 40 Seconds Is A Lifetime

For Tina Mathieu and the Utah Communications Authority, eliminating the time and stress of transferring misrouted calls has been a game-changer – for PSAPs across the state, for dispatchers and for citizens.

“This serves the citizens the very most. They’re the biggest winners of this,” says Tina. “But it’s also a relief for the dispatchers who aren’t having to make these call transfers. And police, fire and EMS are arriving earlier. You know, 40 seconds is a lifetime.”

To the relief of PSAP directors and telecommunicators across the state of Utah, the dramatic reduction of call transfers and increased quality

of service for citizens state-wide did not mean more work, training or policy updates. In fact, the transition was seamless, explains Tina.

“What is really exciting about this is the fact that there is absolutely no work required on the part of the PSAPs. The outcome is a result of what’s being done through technology. We are finally in a position to maximize the technology and make a major difference in our service level. And I don’t think in my 30 years in the 9-1-1 industry, I can think of a time where technology was this impactful without having to make any adjustments in policy. We’re very excited about it.”



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– Tina Mathieu, Deputy Director, Utah Communications Authority

Motorola Solutions’ Call Routing Service, provided by Motorola Solutions Connectivity, Inc., a wholly owned subsidiary of Motorola Solutions, is one of the leading call routing providers in North America. Our portfolio of managed call routing services includes location-based routing, location services, ESInet and cybersecurity - all backed by a team of experts dedicated to your success.

To learn more, visit:

[www.motorolasolutions.com/callrouting](http://www.motorolasolutions.com/callrouting)

<sup>1</sup> APCO International. <https://www.apcointl.org/2019/09/26/new-progress-for-getting-wireless-9-1-1-calls-to-the-right-ecc/>



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